

EXHIBIT 51

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EXHIBIT 52

From: Moore, David E. [mailto:dmoore@potteranderson.com]
Sent: Monday, February 12, 2007 4:22 PM
To: Johnson, Edmond D.
Cc: Tony Zeuli
Subject: Letter text

Ted - Per your voice message, here is more or less how we intend to describe the discovery we want and reasons we need it.

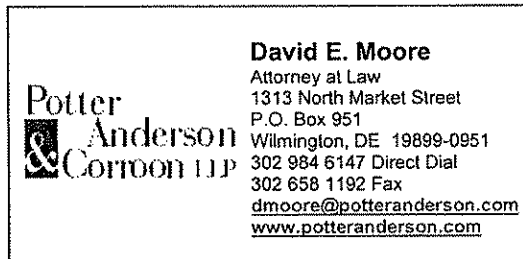
Toro learned, on February 8, 2007, that Textron disposed of important prior art during the pendency of this litigation and possibly after representing to this Court that this prior art was not and had not been in Textron's possession. Toro has requested, but Textron refuses to produce, a 30(b)(6) witness to explain all circumstances surrounding Textron's possession, failure to produce, and disposal of this important prior art so that Toro can determine the appropriateness and scope of a potential motion for sanctions due to spoliation of evidence.

The prior art evidence at issue included three rear-rollered rotary mower decks made by Risboro Turf, which Toro had specifically requested during discovery and were the subject of at least one previous conference call with this Court. Jan. 11, 2007 Transcript at 24:17 – 27:24. Until February 8, Textron maintained that it had no knowledge of Risboro Turf, these decks, had never possessed them, and had no documents concerning them. After Toro found the decks independently, Textron's counsel was forced to admit that Textron's Ransome facility did have the decks during this litigation and disposed of them through a scrap yard. Textron claims no documents exist. Notably, however, an empty red-rope folder labeled Risboro Turf was also discovered during Toro's inspection of Textron's document storage facility in Charlotte, North Carolina. Toro requests that the Court order Textron to provide a 30(b)(6) witness immediately who can fully explain the issues above – including but not limited to information regarding possession of the prior art, search efforts (or failure to search efforts), disposal efforts, and any documents regarding all of the above.

Toro also seeks a 30(b)(6) witness from Textron to testify about how photographs of another important piece of prior art, the Lesco 500 Rotary mower, were not produced by Textron. Textron has maintained throughout this litigation that it was not aware of this mower and that despite a reasonable search, including a search the Johnson Creek facility, no documents existed concerning it. Nov. 9, 2006 Transcript at 25-26, Jan. 11, 2007 Transcript at 5, 13. This has also been the subject of previous calls with this Court, where Textron's counsel vehemently represented that an adequate search had been done. [Id.]

In October, Toro subpoenaed Commercial Grounds Care, the new owner of Textron's Johnson Creek facility. Thereafter, it took counsel for Commercial Grounds Care just one half day to locate actual photographs of the Lesco 500 Rotary mower (along with numerous other non-produced prior art references) at the former Textron facility in a well organized binder clearly labeled with the name and date of the

tradeshow at which the Lesco mower had been shown. Despite finding these previously un-produced photographs of prior art at the very location where the named inventor of the patents-in-suit was employed, Textron will not produce a witness with any knowledge of the Lesco 500 Rotary mower, the photographs, and why these photographs were not produced to Toro. Toro requests that this Court order Textron to provide a 30(b)(6) witness immediately who can fully explain these issues. This discovery is required for Toro to determine the appropriateness and scope of a potential motion for sanctions based on what appears at this point to be the lack of a diligent effort to produce highly relevant information that could have been easily produced if the right searches had been executed.



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EXHIBIT 53

From: Johnson, Edmond D. [mailto:johnsone@pepperlaw.com]
Sent: Wednesday, February 14, 2007 10:11 AM
To: Moore, David E.
Subject: Joint letter

Dave,

I have attached a file with our position on the issues raised by Toro in the Joint Letter requested by the Court.

Regards,
<TED>

<<DiscoveryLetter.DOC>>

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This Court issued an oral Order on February 9, stating that the parties were required to "file a joint letter showing good cause as to why the court should permit a fourth discovery teleconference." As a threshold matter, TII believes that defendants' portion of this "joint letter" is not what this Court envisioned with its Order. However, TII has no choice but to respond.

First, Toro has not told the Court the whole story on this groundless claim of spoliation. In July of last year, Ransomes, a foreign affiliate of TII, disposed of tons of rusted scrap metal as part of a housekeeping effort. Unbeknownst to TII, that scrap included certain Risboro mower decks. In fact, Toro withheld critical evidence in this case which would have alerted TII to the issue and permitted it to try to avoid the routine disposal of that scrap.

Apparently in May of 2006 Toro retained a paid consultant ("Crawforth") who was formerly employed by Risboro. Crawforth signed a Declaration prepared by Toro's counsel on May 27, 2006. In that declaration Crawforth averred that Risboro had given - unsolicited - mower decks to Ransomes at some point in the past.

Notwithstanding that the Scheduling Order required Toro to identify any prior art that it would rely upon in this action by June 1, 2006, Toro intentionally withheld the Crawforth Declaration until November 1, 2006. TII deposed Crawforth on November 28, 2006. It was only then that TII's counsel learned that Risboro had provided samples of certain mower decks to Ransomes sometime in 2001.

While the relevance of possession of samples of the Risboro decks by a non-party to this litigation some four years after the patented invention at issue was conceived is questionable, if Toro had produced the Crawforth Declaration in a timely fashion, instead of five months after it was created, it might have been possible for TII's counsel to locate the Risboro decks at its foreign, corporate affiliate. Given the actual timing, that was not possible.

Once TII learned about the Risboro decks, it promptly contacted Ransomes concerning the acquisition, possession and disposition of the decks. TII learned that the decks were obtained by a scrap dealer who apparently placed them for sale on eBay. Toro now informs us that it is acquiring the decks from the purchaser. Thus, to the extent that there was any alleged prejudice to Toro from the disposal of these decks, it has been remedied.

Toro is now asking for a witness knowledgeable about the acquisition of these decks. Toro has been informed repeatedly that TII has none. TII has questioned every person at Ransomes who might possibly have knowledge, about the acquisition of these decks. (During the course of those conversations, TII learned that Mr. Crawforth has been improperly contacting Ransomes employees about this issue at the behest of Toro.) The best information that we have is that Risboro simply gave the decks to Ransomes, unsolicited. This explains the lack of any documentation associated with the acquisition of the decks. Moreover, it is not surprising to find that six or seven years after the fact, no person has a specific recollection of these decks being dropped off at Ransomes, where they were simply left to rust until someone disposed of them in the ordinary course, along with the other unwanted refuse.

TII has recently obtained a powerpoint file documenting the disposal of this scrap metal and it will produce it this week. Toro has already had the opportunity on two occasions to ask witnesses produced by TII about these decks - long before Toro produced the Crawforth Declaration - and those witnesses had no knowledge. If Toro wants a witness to testify that this

was a routine housecleaning, TII could produce such a witness. But given the cost and anticipated brevity of such a deposition, TII requests that it be a telephonic deposition.

Second, Toro implies that because it claims to have found an "empty red-rope" folder labeled Risboro Turf among the 6,000 archived boxes and more than two million pages of documents that Toro reviewed in the Charlotte warehouse facility, TII must have intentionally removed the contents of that file. Toro well knows, and TII's counsel represents as an officer of the Court, that TII did not remove any documents from this folder. Toro can't seriously suggest that TII was calculating enough to sift through thousands of boxes and millions of pages of documents in order to remove the contents of a single file, but too obtuse to remove the file itself! In any event, that did not happen, and any suggestion to the contrary is false and obviously intended to prejudice TII before the Court.

Third, we are somewhat at a loss with respect to the alleged Lesco Rotary 500 materials found at Commercial Grounds Care ("CGC"). Although the parties have conducted a number of meet-and-confer discussions over the past few weeks, Toro never once requested a TII witness to testify with respect to Lesco. Accordingly, Toro can hardly claim there is "good cause" for this Court to conduct a discovery conference on this issue.

Moreover, TII has not yet had the opportunity to review these documents (having received the CGC production only today), so it is difficult to comment about what they even consist of. However, TII did subpoena Lesco for all documents pertaining to the Lesco 500 Rotary Mower. Lesco did not produce a single document in response, and Lesco's witness testified that no documents about the Lesco 500 Rotary Mower could be located. In fact, Lesco's corporate witness testified that the product at issue was never commercialized.

Evidently, Toro claims that it obtained a brochure for the Lesco Rotary 500 through its recent subpoena. Toro is now demanding that TII produce a knowledgeable witness to testify about a prototype product displayed by a competitor at a trade show almost twenty years ago. That is patently unreasonable. In addition, TII's counsel has inquired whether there is any witness who has such specific knowledge and there is none. That is hardly surprising.

Moreover, as the Court will recall, the company that produced the brochure, CGC, is no longer owned by TII. Rule 30(b)(6) only requires an entity to produce a witness as to that information "reasonably known" to the company. TII has no witness that can testify to the topic as framed by Toro.

In sum, TII has done everything possible to reasonably accommodate Toro's unending demands in discovery, including document searches from multiple, non-party affiliates on two continents, but it is never enough. In return, Toro has conjured up allegations of spoliation based on the flimsiest of facts. Incredibly Toro has done this where it withheld information in contravention of this Court's orders that might have avoided the circumstances that lead to Toro's claims. Such conduct goes beyond the bounds of zealous advocacy.

ATII would like to conclude discovery by February 28 as ordered by the Court, and put an end to this discovery abuse.

EXHIBIT 54

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 55

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EXHIBIT 56

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EXHIBIT 57

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 58

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 59

		Year									
		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
AR-250	Quantity Invoiced	66	341	322	366	182		3			
	U.S. Patent 6,047,531	Invoiced Before Patent Issued									
	U.S. Patent 6,336,311	Invoiced Before Patent Issued									
	U.S. Patent 6,336,312	Invoiced Before Patent Issued									
AR-2500	Quantity Invoiced					34	268	148	2		
	U.S. Patent 6,047,531	No AR-2500s Invoiced									
	U.S. Patent 6,336,311										
	U.S. Patent 6,336,312										
AR-3	Quantity Invoiced										
	U.S. Patent 6,047,531	No AR-3s Invoiced									
	U.S. Patent 6,336,311										
	U.S. Patent 6,336,312										
AR-5	Quantity Invoiced										
	U.S. Patent 6,047,531	No AR-5s Invoiced									
	U.S. Patent 6,336,311										
	U.S. Patent 6,336,312										

		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total	Quantity Invoiced	66	341	322	366	216	268	151	269	177	164
	U.S. Patent 6,047,530	Invoiced Before Patent Issued									
	(% Apparently										
	U.S. Patent 6,336,311	Invoiced Before Patent Issued									
	(% Apparently										
	U.S. Patent 6,336,312	Invoiced Before Patent Issued									
	(% Apparently										

Discontinuation of Apparent Marking for Over a Year

No Evidence of Marking Until March 15, 2006

EXHIBIT 60

FOCUS - 8 of 21 DOCUMENTS

ORECK HOLDINGS, L.L.C. VERSUS MINUTEMAN INTERNATIONAL, INC.

CIVIL ACTION NO. 03-319 SECTION "K"(5)

**UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF
LOUISIANA**

2003 U.S. Dist. LEXIS 20114

**November 7, 2003, Decided
November 7, 2003, Filed, Entered**

DISPOSITION: [*1] Minuteman's Motion for Partial Summary Judgment GRANTED.

COUNSEL: For ORECK HOLDINGS LLC, plaintiff: Frederick William Bradley, Oreck, Bradley, Crighton, Adams & Chase, New Orleans, LA.

For MINUTEMAN INTERNATIONAL, INC., defendant: Thomas K. Potter, III, Gregory D. Latham, Jones, Walker, Waechter, Poitevent, Carrere & Denegre, New Orleans, LA.

JUDGES: STANWOOD R. DUVAL, JR., UNITED STATES DISTRICT COURT JUDGE.

OPINION BY: STANWOOD R. DUVAL, JR.

OPINION:

ORDER AND REASONS

Before the Court is a Motion for Partial Summary Judgment (Doc. No. 15) filed by Minuteman International, Inc. ("Minuteman"), in which it contends that plaintiff failed to mark its products properly with the applicable patent numbers as required by law which failure requires plaintiff's alleged damages to be limited. Having reviewed the pleadings, memoranda and the relevant law, the Court finds the motion to have merit.

Background

Plaintiff, Oreck Holdings, L.L.C., ("Oreck") is a

manufacturer of vacuum cleaner products organized under the laws of the State of Delaware, with its registered office in Cheyenne, Wyoming. Oreck is the owner of two patents allegedly infringed by the defendant. Oreck is affiliated [*2] with Oreck Corporation, which manufactures an Extractor that incorporates Oreck's patented features. Minuteman manufactures and sells household cleaning machinery with its principal place of business in Illinois. Minuteman allegedly utilized Oreck's patented features in some of its products.

On December 24, 1985 the United States Patent and Trademark Office issued two patents, Patent Nos. 4,559,667 ("the '667 patent") and 4,559,665 ("the '665 patent"), to Regina Corporation ("Regina"). The '667 patent discloses "a suction nozzle for an Extractor that has a horizontal trough that permits the retention of fluid that is contained within the suction conduit when the suction source is deactivated." (Doc. No. 1 at P 7). The '665 patent discloses "a suction nozzle for a cleaning device ... that has a viewing area that slows down the speed of the liquid in the nozzle." (Doc. No. 1 at P 10). Oreck obtained the '667 and '665 patents from Regina in March, 1997, and is now the sole owner of both the '667 and '665 patents originally issued to Regina.

On January 31, 2003, Oreck filed the instant complaint alleging patent infringement against Minuteman. (Doc. No. 1). Specifically, Oreck contends [*3] that Minuteman's "ET" extraction tool "contains features and elements that are described within the claims of the '667 and '665 patents." (Doc. No. 1 at P 11). By manufacturing, using, offering to sell, or selling products

2003 U.S. Dist. LEXIS 20114, *3

that contain Oreck's patented features, Oreck claims Minuteman has enjoyed a substantial commercial advantage to Oreck's detriment. (Doc. No. 1 at P 14). Oreck further alleges Minuteman's willful and knowing infringement of their '667 and '665 patents. (Doc. No. 1 at P 15-16).

Minuteman filed the instant motion seeking a limitation on damages for the alleged infringement pursuant to 35 U.S.C. § 287(a) which requires the fixing of the patent on the product which provides notice or in the event of a failure to do so, actual notification by the patent holder of the allegation of infringement. Damages in that instance run only from the date of actual notice. Based on this provision, Minuteman argues that it is entitled to a ruling that in the event it is found to have infringed Oreck's patents, Oreck may only recover damages from the date it notified Minuteman of its contentions, that is the date this suit was filed, February 3, 2003.

Oreck contends, [*4] supported by the affidavit of Kent Furcron, an Oreck engineer who previously worked for Regina, that Minuteman copied the Regina nozzle in the production of its product while Regina's product was being marketed in 1995-96, because the Minuteman tool was first produced in 1997. As such, Oreck contends that there was a knowing infringement by Minuteman at that time. As such, because there is outstanding discovery on that timing issue, Oreck has sought a continuance of this Court's consideration of this motion under Rule 56(f).

However, Oreck admits in its responses to Minuteman's interrogatories that:

Regina ceased production in December 1996. Oreck purchased the Regina company in March 1997 and started the Steemer line under the Oreck brand in mid-1997. There is no patent information currently on the Steemer itself or accompany literature and packaging. Since the Regina branded model was discontinued, patent information has not been listed upon the product.

(Memorandum in Support Ex. 1, Response to Interrogatory No. 7). Thus, Oreck has never marked the Oreck "Steemer", which utilized the instant patents with the patents at issue, since production began in mid-1997,

[*5] and it did not actually notify Minuteman of its claims of infringement until suit was filed. Nonetheless, Oreck in its response also contends that there are genuine issues of fact concerning whether Minuteman copied the Regina device when it designed its own product, whether it was aware of the Regina (now Oreck) patents in question, and whether it intended to intentionally infringe those patents.

Standard for Motion for Summary Judgment

Summary judgment should be granted "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." *FED.R.CIV.P. 56(c)*. "Where the record taken as a whole could not lead a rational trier of fact to find for the non-moving party, there is no genuine issue for trial." *Matsushita Electric Industrial Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587, 89 L. Ed. 2d 538, 106 S. Ct. 1348 (1986). Substantive law determines the materiality of facts, and "only disputes over facts that might affect the outcome of the suit under the governing law will [*6] properly preclude the entry of summary judgment." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248, 91 L. Ed. 2d 202, 106 S. Ct. 2505 (1986).

The moving party "bears the initial responsibility of informing the district court of the basis for its motion, and identifying those portions of [the record] ... which it believes demonstrate the absence of a genuine issue of material fact." *Celotex Corp v. Catrett*, 477 U.S. 317, 323, 91 L. Ed. 2d 265, 106 S. Ct. 2548 (1986). Once the movant meets this burden, the burden shifts to the non-movant "to make a showing sufficient to establish the existence of an element essential to that party's case, and on which that party will bear the burden of proof at trial." *Id.* at 322. "Mere allegations or denials" will not defeat a well-supported motion for summary judgment. *FED.R.CIV.P. 56(e)*. Rather, the non-movant must come forward with "specific facts" that establish an issue for trial. *Id.*

When deciding a motion for summary judgment, the Court must avoid a "trial on affidavits. Credibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts" are tasks for the trier-of-fact. [*7] *Anderson*, 477 U.S. at 255. To that end, the Court must resolve disputes over material facts in the non-movant's favor. "The party opposing a

2003 U.S. Dist. LEXIS 20114, *7

motion for summary judgment, with evidence competent under *Rule 56*, is to be believed." *Leonard v. Dixie Well Service & Supply, Inc.*, 828 F.2d 291, 294 (5th Cir. 1987). With this standard in mind, the Court now turns to the merits of the motion.

Notice Requirements and Damages

As previously noted, the relevant portion of § 287(a) provides as follows:

Patentees, and persons making, offering for sale, or selling within the United States any patented article for or under them ... may give notice to the public that the same is patented, either by fixing thereon the word "patent" or the abbreviation "pat.", together with the number of the patent, or when, from the character of the article, this can not be done, by fixing to it, or to the package wherein one or more of them is contained, a label containing a like notice. In the event of failure so to mark, no damages shall be recovered by the patentee in any action for infringement, except on proof that the infringer was notified of the infringement [*8] and continued to infringe thereafter, in which event damages may be recovered only for infringement occurring after such notice. Filing of an action for infringement shall constitute such notice.

35 U.S.C. § 287(a)(2003). Thus, the first requirement for recovery of damages from the time of infringement is that the product whose patent has been infringed has been properly marked as required by the statute.

To be properly marked, courts have interpreted the relevant statute as further requiring "substantially consistent and continuous marking". As stated in *American Medical Systems, Inc. v. Medical Engineering Corp.*, 6 F.3d 1523, 1537 (Fed. Cir. 1993):

In light of the permissive wording of the present state, and the policy of encouraging notice by marking, we construe *section 287(a)* to preclude recovery of damages only for infringement for any time prior to compliance with the

marking or actual notice requirements of the state. Therefore, a delay between issuance of the patent and compliance with the marking provision of *section 287(a)* will not prevent recovery of damages after the date that marking has begun. We caution, however, [*9] that once marking has begun, it must be substantially consistent and continuous in order for the party to avail itself of the constructive notice provisions of the statute.

Id. (emphasis added).

While Regina allegedly marked the product with the relevant patent numbers, the marking of the product ended when Regina ceased production in 1996. In 1997, Oreck began to produce the Steemer line, but it failed to mark the product with the relevant patents. Thus, there was a six year period during which the product was not marked. A six year hiatus in marking does not constitute "substantially consistent and continuous marking". See *Nike Inc. v. Wal-Mart Stores*, 138 F.3d 1437, 1446 (Fed. Cir. 1998); *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1111 (Fed. Cir. 1996, cert. denied, 520 U.S. 1115, 137 L. Ed. 2d 327, 117 S. Ct. 1244 (1997)). Furthermore, the Federal Circuit has stated:

For the purpose of *section 287(a)*, notice must be of "the infringement," not merely notice of the patent's existence or ownership. Actual notice requires the affirmative communication of a specific charge of infringement by a specific accused product or device ... It is irrelevant [*10] ... whether the defendant knew of the patent or know of his infringement. The correct approach to determining notice under *section 287* must focus on the action of the patentee, not the knowledge or understanding of the infringer.

Amsted Insutries, Inc. v. Buckeye Steel Castings Co., 24 F.3d 178, 187 (Fed. Cir. 1994). Thus, damages in this instance do not run from the time of the alleged infringement. n1 Rather, the Court must find when actual notice was given.

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n1 Because of the hiatus in marking and the apparent requirement for continuity in marking, the Court finds that the issue of whether Minuteman knowingly copied the product in 1997 becomes irrelevant for purposes of damages. The failure to continuously mark the product acts as a bar to recovery for that past alleged infringement. While the Court recognizes the argument that the statute may not speak in such terms, it is clear that the Federal Circuit has interpreted the statute as such, and the Court must follow such precedent. *Amsted Industries, Inc v Buckeye Steel Castings Co.*, 24 F.3d 178, 187 (Fed. Cir. 1994). As such, the request for a Rule 56(f) continuance is without support and must be denied.

[*11]

In the absence of a continuous marking, courts interpret § 287 as requiring a patent owner to actually notify an infringer of the alleged infringement. See *Amsted Industries*, 24 F.3d at 186-87; *Gart v. Logitech, Inc.*, 254 F.3d 1334 (Fed. Cir. 2001); *Lans v. Digital Equip. Corp.*, 252 F.3d 1320 (Fed. Cir. 2001); *SRI International, Inc. v. Advanced Technology Laboratories, Inc.*, 127 F.3d 1462, 1470 (Fed. Cir. 1997). A patent owner's notice must be of the specific infringement itself: "actual notice requires the affirmative communication of a specific charge of infringement by a 'specific accused product or device.'" *Amsted Industries*, 24 F.3d at 187. As stated in *SRI International, Inc. v. Advanced Technology Laboratories, Inc.*, 127 F.3d 1462, 1470 (Fed. Cir. 1997), "the purpose of the actual notice requirement is met when

the recipient is notified, with sufficient specificity, that the patent holder believes that the recipient of the notice may be an infringer." Providing notice to an infringer, either by marking its products or by giving actual notice, is an affirmative duty on the [*12] patent owner. *Lans v. Digital Equipment Corp.*, 252 F.3d 1320 (Fed. Cir. 2001) citing *Dunlap v. Schofield* 152 U.S. 244, 246, 38 L. Ed. 426, 14 S. Ct. 576, 1894 Dec. Comm'r Pat. 224. Failure to provide such notice results in a patent owner's limitation in its rights to damages from the time of such notification. 35 U.S.C. § 287(a); *Amsted Industries*, 24 F.3d at 187.

Plaintiff has admitted that did not consistently mark its products with a patent number, and that did not notify defendant of its infringement claims until the filing of this lawsuit. As such, damages must be limited to the date this suit was filed. Accordingly,

IT IS ORDERED that the Minuteman's Motion for Partial Summary Judgment (Doc. No. 15) is **GRANTED**; in the event damages are awarded to Oreck Holdings, L.L.C., the damages shall be limited commence on the date of the notification by Oreck of Minuteman's alleged infringement that being February 3, 2003, the day Oreck filed suit.

New Orleans, Louisiana, this 7th day of November, 2003.

STANWOOD R. DUVAL, JR.

UNITED STATES DISTRICT COURT JUDGE

EXHIBIT 61

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 62



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

MAY 22, 1997

MICHAEL, BEST & FRIEDRICH
DAVID R. PRICE
100 EAST WISCONSIN AVENUE
SUITE 3300
MILWAUKEE, WI 53202-4108

PTAS

MAY 30 1997

MILWAUKEE, WI



100390406A

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RECORDATION DATE: 02/03/1997

REEL/FRAME: 8433/0424
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

BEDNAR, RICHARD D.

DOC DATE: 01/31/1997

ASSIGNEE:

RANSOMES AMERICA CORPORATION
900 NORTH 21ST STREET
LINCOLN, NEBRASKA 68501

SERIAL NUMBER: 08794141
PATENT NUMBER:

FILING DATE: 02/03/1997
ISSUE DATE:

ANNIE HARRELL, EXAMINER
ASSIGNMENT DIVISION
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ph

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02/03/97

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

FORM PTO-1695
1-31-92

To the Assistant Commissioner for Patents. Please record and index the attached original documents or copy thereof.

1. Name of conveying party(ies): Richard D. Bednar	2. Name and address of receiving party(ies): Name: Ransomes America Corporation Address: 900 North 21st Street City: Lincoln State: Nebraska Zip: 68501 Additional name(s) & address(es) attached? ___ Yes <u>X</u> No
3. Nature of Conveyance: Assignment Execution Date: <u>January 31, 1997</u>	
4. This document is being filed together with a new application. The execution date of the application is: <u>January 31, 1997</u> <u>08794141</u>	
NO ADDITIONAL NUMBERS ATTACHED.	
5. Name and address of party to whom correspondence concerning document should be mailed: David R. Price Michael, Best & Friedrich Suite 3300 100 East Wisconsin Avenue Milwaukee, WI 53202-4108	6. Total number of applications and patents involved: <u>1</u> 7. Total fee (37 CFR 3.41):.....\$ 40.00 <u>X</u> Enclosed <u>X</u> Deficiencies in fee charged to Deposit Account 8. Deposit account number: <u>13-3080</u>
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9. Statement and signature. <i>To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.</i> <u>David R. Price (Reg. No. 31,557)</u> Name of Person Signing <u>David R. Price</u> Signature <u>February 3, 1997</u> Date Total number of pages including cover sheet, attachments, and document: 3	
OMB No. 0651-0011 (exp. 4/94) H:\PFORM\ASSIGN\CS1	Attorney File 78209/9009

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FORM PTD-1595
1-31-82

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U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

To the Assistant Commissioner for Patents. Please record and index the attached original documents or copy thereof.

1. Name of conveying party(ies):
Richard D. Bednar

2. Name and address of receiving party(ies):

Name: Ransomes America Corporation

Address: 900 North 21st Street

City: Lincoln **State:** Nebraska **Zip:** 68501

Additional name(s) & address(es) attached? Yes X No

3. Nature of Conveyance: Assignment

Execution Date: January 31, 1997

4. This document is being filed together with a new application. The execution date of the application is: January 31, 1997

NO ADDITIONAL NUMBERS ATTACHED.

5. Name and address of party to whom correspondence concerning document should be mailed:

**David R. Price
Michael, Best & Friedrich
Suite 3300
100 East Wisconsin Avenue
Milwaukee, WI 53202-4108**

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41):.....\$ 40.00

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X Deficiencies in fee charged to Deposit Account

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Name of Person Signing

Signature

February 3, 1997

Date _____

Total number of pages including cover sheet, attachments, and document: 3

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Attorney File 78209/9009

TEXD 003457

61305 U.S. PTO
08/794141
02/03/97

A S S I G N M E N T

For and in consideration of the sum of One Dollar
(\$1.00) to me:

Richard D. Bednar
N6804 Shorewood Hills Rd.
Lake Mills, Wisconsin 53551

paid by Ransomes America Corporation (hereinafter referred to as
"Assignee"), a Delaware corporation having its principal place of
business at:

900 North 21st Street
Lincoln, Nebraska 68501-2409

and for other valuable and sufficient consideration, receipt
whereof is hereby acknowledged, I hereby sell, assign and convey,
unto Assignee, its successors and assigns, my entire right, title
and interest -

(1) in and to an invention entitled "GANG-TYPE ROTARY
LAWN MOWER" for which I have executed a United States patent
application on even date herewith;

(2) in and to said United States application, in and
to all other patent applications (including divisional,
continuation, continuation-in-part, §111(b) provisional, §111(a),
and reissue applications) based upon said invention, and in and
to the patent or patents to be granted thereon, including
reissues thereof, if any, to the full end of the term or terms
for which said patent or patents may be granted;

(3) in and to all patent applications on said
invention now or hereafter filed in countries foreign to the
United States of America, and in and to any and all patents

TEXD 003458

granted on said applications to the full end of the terms for which said patents may be granted; and

(4) under the International Convention in respect to the United States patent application and agree that any patent applications of any foreign countries which may be filed shall be filed in the name of my Assignee with a claim to priority based on said United States application.

And I hereby agree that I will, upon demand of Assignee, its successors or assigns, and without further consideration to me, execute any and all papers that may be necessary, or deemed by Assignee, its successors or assigns, to be necessary, to a complete fulfillment of the intent and purposes of this Assignment, it being understood that any expense incident to the execution of such papers shall be paid by Assignee, its successors and assigns, and not by me.

And the Commissioner of Patents and Trademarks of the United States is hereby authorized and requested to issue the said United States patent or patents to Assignee.

Date:

1-31-97

Richard D. Bednar
Richard D. Bednar

EXHIBIT 63

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 64



US006047530A

United States Patent [19]
Bednar

[11] **Patent Number:** **6,047,530**
 [45] **Date of Patent:** **Apr. 11, 2000**

[54] **GANG-TYPE ROTARY LAWN MOWER****FOREIGN PATENT DOCUMENTS**[75] **Inventor:** **Richard D. Bednar, Lake Mills, Wis.**

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[73] **Assignee:** **Textron, Inc., Providence, R.I.****OTHER PUBLICATIONS**[21] **Appl. No.:** **08/794,141**[22] **Filed:** **Feb. 3, 1997**[51] **Int. Cl.** **A01D 34/66**[52] **U.S. Cl.** **56/6; 56/13.6; 56/DIG. 3; 56/DIG. 10; 56/DIG. 14**[58] **Field of Search** **56/6, 7, 13.6, 13.7, 56/13.8, 255, 295, DIG. 3, DIG. 9, DIG. 10, DIG. 11, DIG. 12, DIG. 13, DIG. 14**

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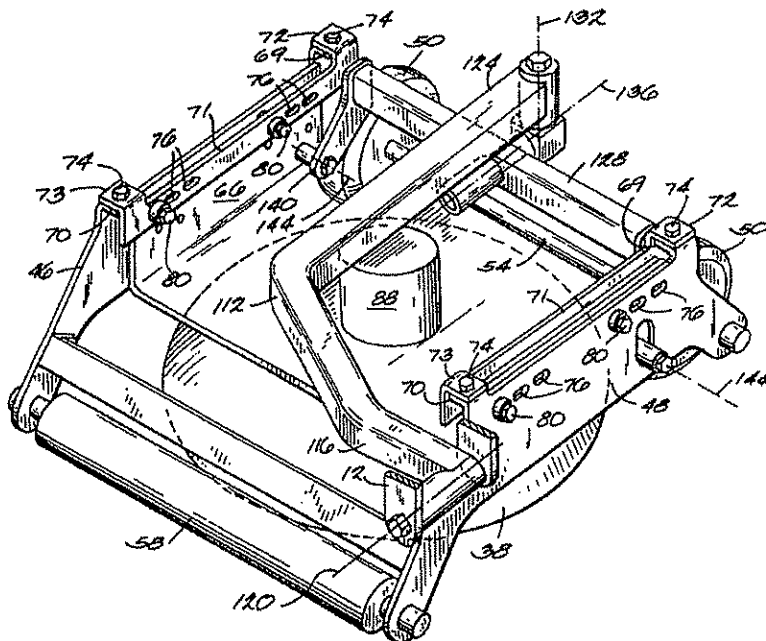
Primary Examiner—Robert E. Pezzuto
Attorney, Agent, or Firm—Michael Best & Friedrich LLP

[57] **ABSTRACT**

A gang-type rotary lawn mower including a frame supported by wheels for movement over the ground, a power source which is mounted on the frame and which drives at least two of the wheels, an operator's seat mounted on the frame, a steering system enabling the operator to steer the lawn mower, at least two side-by-side front rotary cutting deck assemblies mounted on the frame, the front deck assemblies defining a gap between adjacent front deck assemblies, and at least one rear rotary cutting deck assembly mounted on the frame behind the front deck assemblies, each rear deck assembly being aligned with a respective gap between adjacent front deck assemblies, each of the front and rear deck assemblies including a single-spindle mulching deck defining a downwardly opening space, a single spindle mounted for rotation about a generally vertical axis within the space, and at least one cutting blade mounted on the spindle for rotation therewith.

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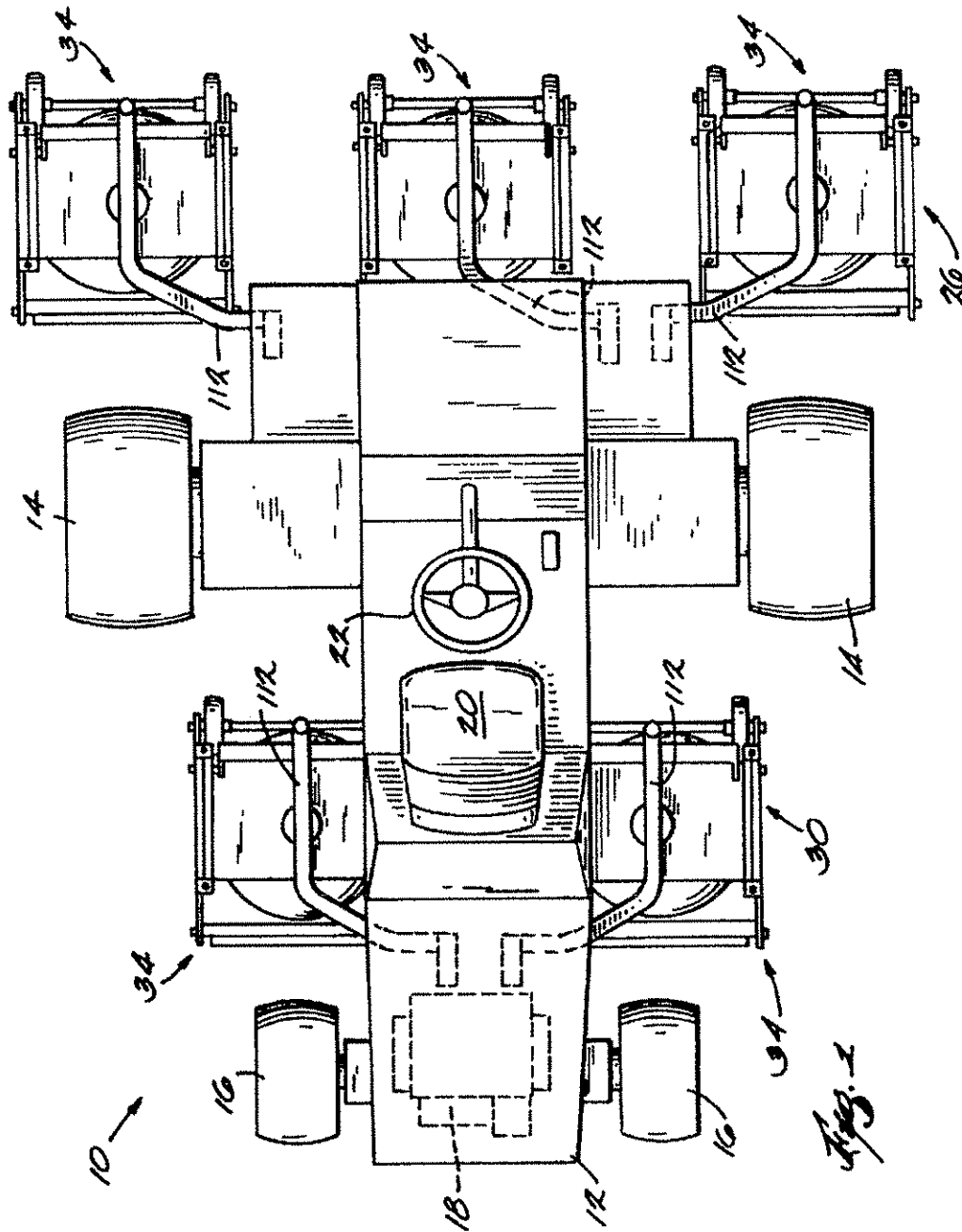
19 Claims, 5 Drawing Sheets

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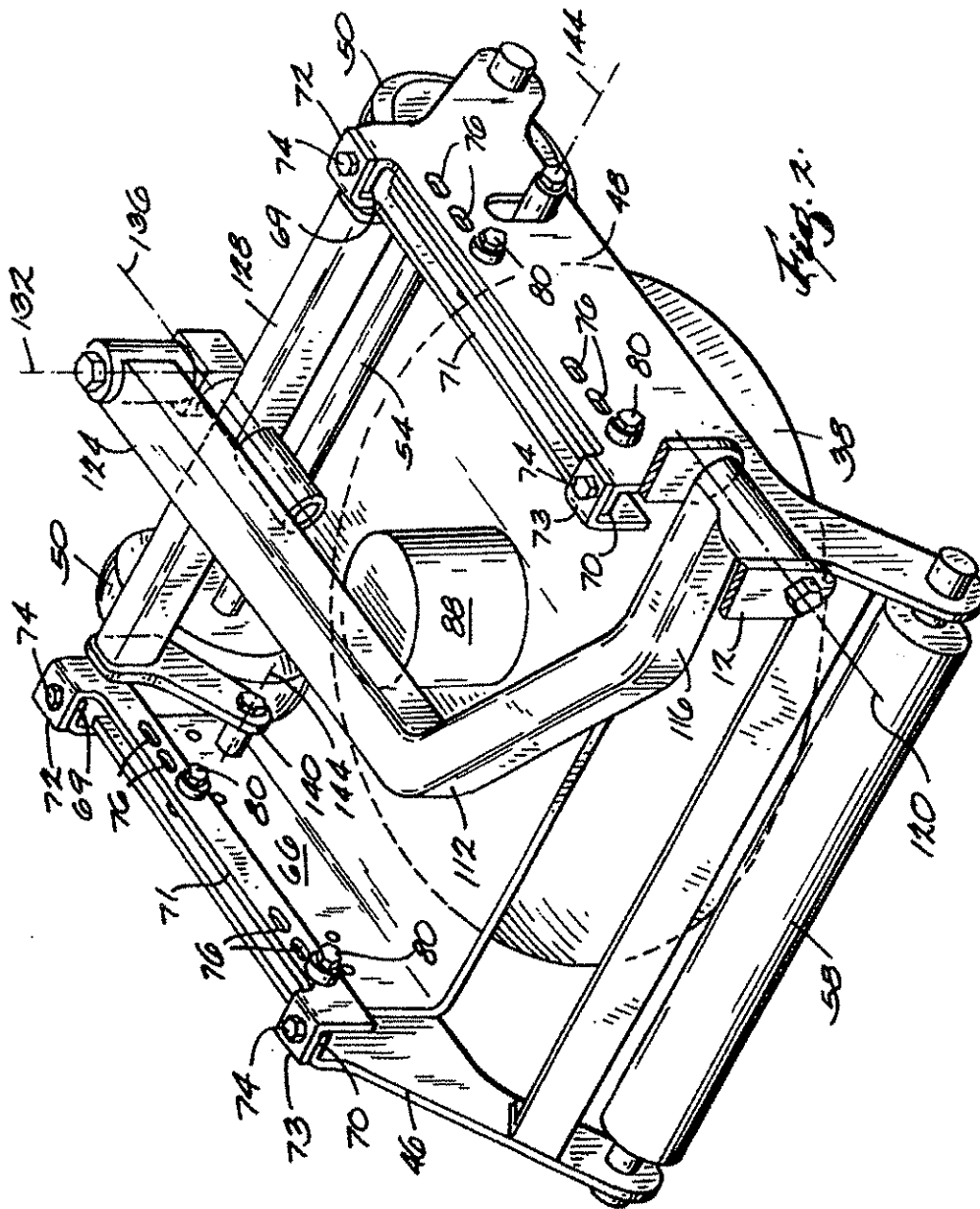


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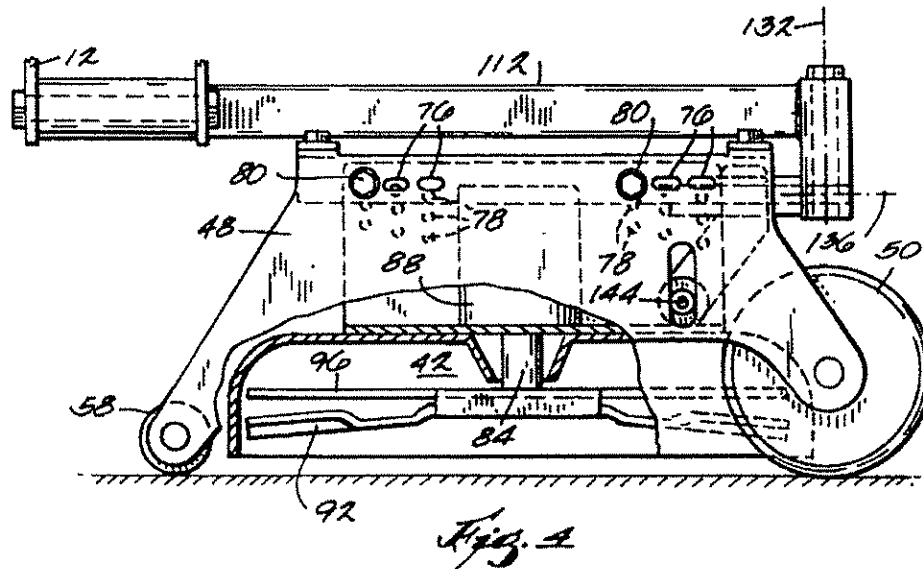
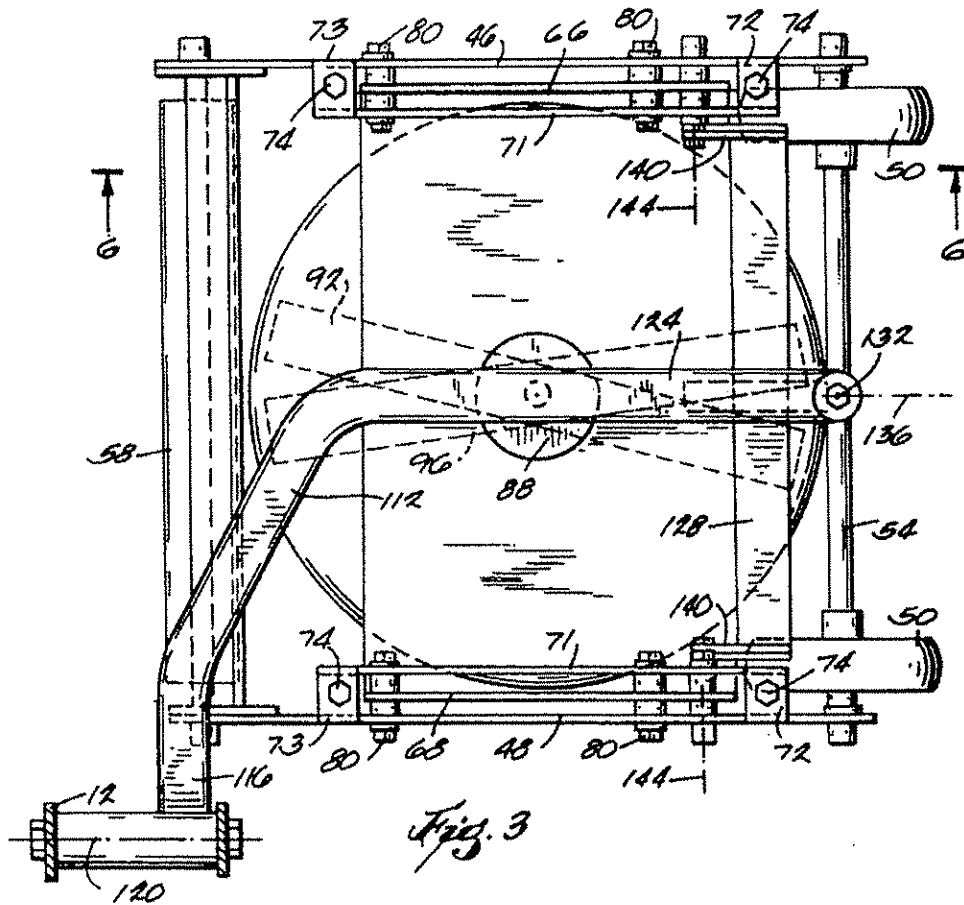


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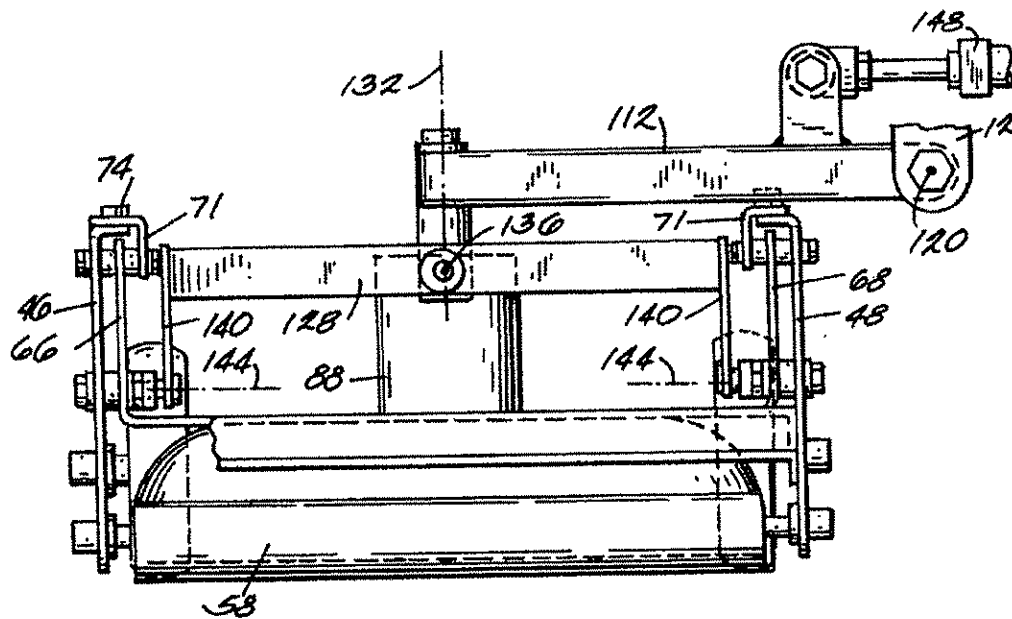


Fig. 5

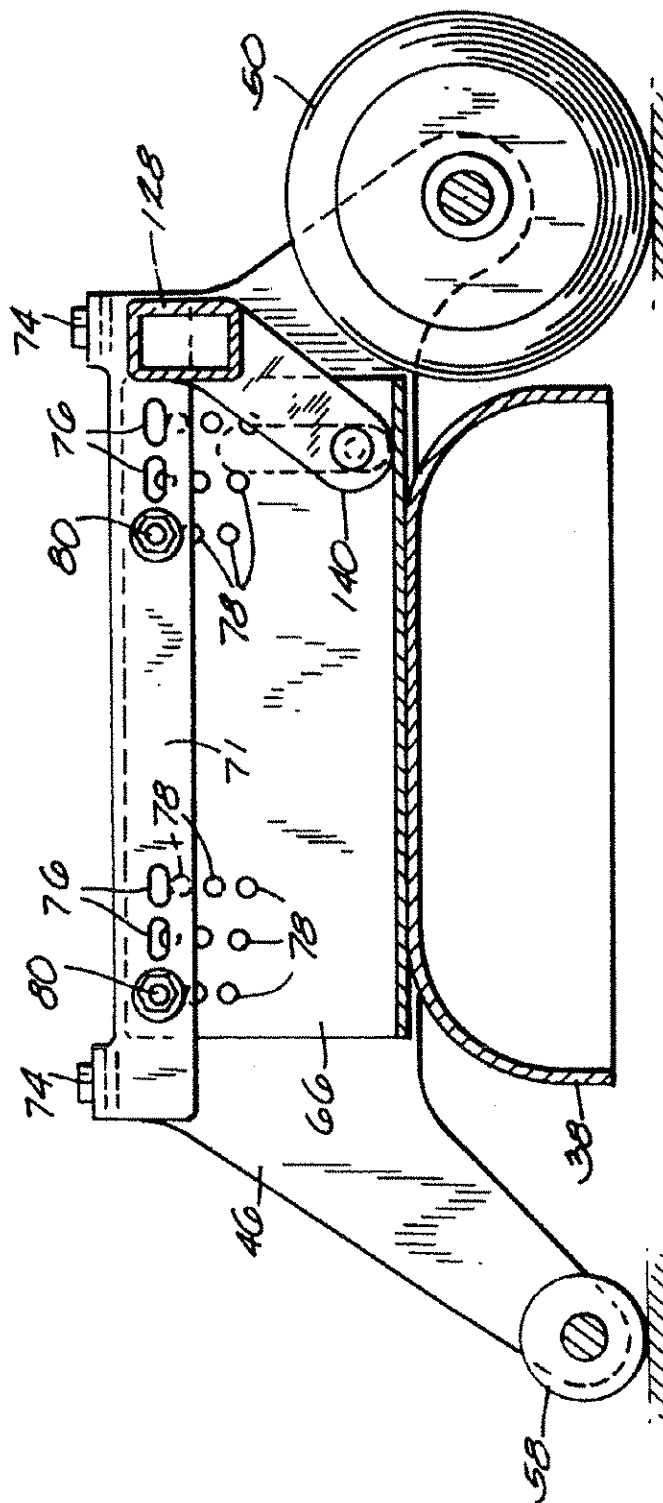
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Fig. 6



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GANG-TYPE ROTARY LAWN MOWER**BACKGROUND OF THE INVENTION**

The invention relates to rotary lawn mowers and to gang-type lawn mowers.

Historically, reel mowers have been used to cut golf course roughs. It is generally recognized that rotary mowers are better suited for cutting tall grass, where scalping is not a problem, while reel mowers are better for shorter cutting. A gang of reels can be either attached directly to the frame on which the operator rides, or pulled behind a tractor. Pull-behind or tow-behind rotary gangs are also known. These can be driven either by a power takeoff or by a separate engine. Tow-behind gangs, whether reel or rotary, are generally undesirable for cutting a golf course rough because close trimming is difficult. Thus, rotary mowers have not been used to cut golf course roughs, which require close trimming and the ability to cut undulating terrain at a relatively short length.

SUMMARY OF THE INVENTION

The invention provides a gang-type rotary lawn mower suitable for cutting a golf course rough. This is a tremendous improvement over the known prior art, because a rotary mower typically requires substantially less maintenance than a reel mower. The lawn mower has single-spindle cutting decks attached directly to the frame on which the operator rides, with a front row of two or more cutting decks in front of the front wheels, and with a rear row of one or more cutting decks between the front and rear wheels. The invention also provides an improved arrangement for mounting a rotary cutting deck on a lawn mower frame. Each deck is mounted on its own lifting arm so that the deck can move vertically relative to the frame and can pivot relative to the frame about three mutually perpendicular axes.

More particularly, the invention provides a gang-type rotary lawn mower comprising a frame supported by front and rear wheels, an operator's seat mounted on the frame, at least two side-by-side front cutting deck assemblies mounted on the frame in front of the front wheels, and at least one rear cutting deck assembly mounted on the frame behind the front wheels and in front of the rear wheels. Each of the front and rear deck assemblies includes a pair of laterally-spaced, generally vertically-extending side plates, front wheels supporting the side plates for movement over the ground, and a rear roller extending between the side plates and supporting the side plates for movement over the ground. Each deck assembly also includes a single-spindle cutting deck located between the side plates and in front of the roller, the deck being mounted on the side plates such that the height of the deck relative to the ground is adjustable. The roller extends across substantially the entire width of the deck. The roller resists scalping and stripes the grass, both of which are aesthetically desirable.

Each deck assembly is connected to the frame by a generally L-shaped, horizontally-extending lifting arm operable to lift the deck assembly relative to the frame. Each deck assembly is connected to the frame by its own lifting arm. Each lifting arm has an inner end pivotally connected to the frame. A cross member is mounted on the outer end of the lifting arm for pivotal movement about a generally vertical axis and about a generally horizontal axis extending in the forward-rearward direction. One end of the cross member is connected to one of the deck assembly side plates for pivotal movement about a generally horizontal, laterally-

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extending axis adjacent the forward ends of the side plates, and the other end of the cross member is connected to the other side plate for pivotal movement about the same axis.

This construction enables the lawn mower to cut the undulating terrain of a golf course rough and to be controlled for close trimming. Also, as mentioned above, the lawn mower requires much less maintenance than the reel mowers historically used to cut a golf course rough.

Other features and advantages of the invention will become apparent to those skilled in the art upon review of the following detailed description, claims and drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan view of a lawn mower embodying the invention.

FIG. 2 is a perspective view of a cutting deck assembly.

FIG. 3 is a top plan view of the cutting deck assembly.

FIG. 4 is a side elevational view of the cutting deck assembly.

FIG. 5 is a rear elevational view of the cutting deck assembly.

FIG. 6 is a view taken along line 6—6 in FIG. 3.

Before one embodiment of the invention is explained in detail, it is to be understood that the invention is not limited in its application to the details of the construction and the arrangements of components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced or being carried out in various ways. Also, it is understood that the phraseology and terminology used herein is for the purpose of description and should not be regarded as limiting.

DESCRIPTION OF THE PREFERRED EMBODIMENT

A lawn mower 10 embodying the invention is illustrated in FIG. 1. Except as described below, the lawn mower 10 is identical to the lawn mower disclosed in U.S. patent application Ser. No. 08/787,384, filed Jan. 22, 1997, titled "PARALLEL-SERIES FOUR-WHEEL-DRIVE HYDRAULIC CIRCUIT FOR A RIDING LAWN MOWER" and assigned to the assignee hereof. The lawn mower 10 comprises a frame 12 (partially shown in FIGS. 2-5) supported by front wheels 14 and rear wheels 16 for movement over the ground. While the illustrated lawn mower 10 is rear-steering and has four-wheel drive, it should be understood that the invention is applicable to front-steering or two-wheel-drive lawn mowers.

The lawn mower 10 further comprises a power source 18 supported by the frame 12. The power source may be any type known in the art, such as a gasoline-powered, internal-combustion engine. The engine drives a hydraulic pump (not shown) that supplies hydraulic fluid to hydraulic motors (not shown) drivingly connected to the wheels 14 and 16. The lawn mower 10 further comprises an operator's seat 20, and a conventional steering system, including a steering wheel 22, enabling the operator to steer the lawn mower 10. In the illustrated construction, the steering system is hydraulic and is connected to the rear wheels 16 to steer the lawn mower 10.

The lawn mower 10 further comprises front and rear rows 26 and 30, respectively, of cutting deck assemblies 34. More particularly, in the illustrated construction, the lawn mower 10 has three side-by-side front cutting deck assemblies 34 in

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front of the front wheels 14, and two rear cutting deck assemblies 34 behind the front wheels 14 and in front of the rear wheels 16. As is known in the art, each rear deck assembly 34 is aligned with the gap between two adjacent front deck assemblies 34.

Each of the cutting deck assemblies 34 includes (see FIGS. 2-5) a single-spindle mulching deck 38 defining a downwardly opening space 42 (FIG. 4). The deck 38 is located between and supported by a pair of laterally-spaced, generally vertically-extending side plates 46 and 48. The term "lateral" is used herein to mean the direction from one side of the lawn mower to the other, i.e., perpendicular to the forward-rearward direction. Two front wheels 50 rotate about an axle 54 (FIGS. 2 and 3) extending between the side plates 46 and 48 in front of the deck 38, such that each front wheel 50 supports one of the side plates 46 and 48 and the deck 38 for movement over the ground. A rear roller 58 extends between the side plates 46 and 48 and also supports the side plates 46 and 48 and the deck 38 for movement over the ground. The roller 58 is behind the deck 38 and extends across substantially the entire width of the deck 38. The roller 58 resists scalping and stripes the grass.

The deck 38 is mounted on the side plates 46 and 48 such that the height of the deck 38 relative to the ground is adjustable. In the illustrated construction, the deck 38 includes spaced deck plates 66 and 68 (FIGS. 3 and 5) extending upwardly adjacent the side plates 46 and 48, respectively. The upper end of each side plate 46 or 48 has thereon (see FIG. 2) generally horizontal, inwardly-extending ears 69 and 70, with the ear 69 adjacent the front of the side plate and the ear 70 adjacent the rear of the side plate. Fixed to the ears 69 and 70 of each side plate 46 or 48 is an elongated plate member 71 having outwardly-extending ears 72 and 73 respectively secured to the ears 69 and 70 by suitable means such as bolts or screws 74. Each side plate 46 or 48 and the corresponding plate member 71 has therein (see FIGS. 4 and 6) a series of holes 76. Each of the deck plates 66 and 68 has therein several vertically-spaced series of holes 78. Bolts 80 extending through holes 76 in the side plates 46 and 48 and in the plate members 71 and through holes 78 in the deck plates 66 and 68 secure the deck 38 to the side plates 46 and 48. The height of the deck 38 is adjusted by changing the holes 78 in the deck plates 66 and 68 and/or the holes in the side plates 46 and 48 and in the plate members 71 through which the bolts 80 extend.

A single spindle 84 (FIG. 4) is mounted for rotation about a generally vertical axis within the space 42 defined by the deck 38. The spindle 84 is driven by a hydraulic motor 88 on top of the deck 38. The above-mentioned pump supplies hydraulic fluid to the motor 88. It should be understood that other means could be used to drive the spindle 84.

A set of cutting blades is mounted on the spindle 84 for rotation therewith. In the illustrated construction, as shown in FIGS. 3 and 4, each blade set includes a lower, leading blade 92 and an upper, trailing blade 96. The leading blade 92 has a leading cutting edge and an upwardly angled trailing edge or lift. Preferably, the lift of the leading blade 92 is angled upwardly at an angle of approximately forty-five degrees. The trailing blade 96 has a leading cutting edge for cutting clippings deflected upwardly by the lift of the leading blade 92. The blades are preferably identical to those disclosed in U.S. patent application Ser. No. 08/787,382, filed Jan. 22, 1997, titled "ROTARY LAWN MOWER MULCHING DECK" and assigned to the assignee hereof. In alternative embodiments of the invention, different blade arrangements can be employed.

Each of the deck assemblies 34 is mounted on the frame 12 by a generally L-shaped, horizontally-extending lifting

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arm 112, such that each deck assembly is mounted on its own lifting arm 112. The lifting arm 112 has (see FIGS. 2 and 3) a laterally-extending inner leg 116 with an inner end connected to the frame 12 for pivotal movement about a generally horizontal axis 120 extending in the forward-rearward direction. The arm 112 also has an outer leg 124 extending in the forward-rearward direction. A cross member 128 is mounted on the outer end of the outer leg 124 for pivotal movement about a generally vertical axis 132 and about a generally horizontal axis 136 extending in the forward-rearward direction. Each of the opposite, laterally-spaced ends of the cross member 128 has thereon (see FIGS. 2, 3, 5 and 6) a downwardly and slightly rearwardly extending arm 140. The lower end of one arm 140 is connected to the side plate 46 for pivotal movement about a generally horizontal, laterally-extending axis 144 adjacent the forward ends of the side plates 46 and 48. The lower end of the other arm 140 is connected to the side plate 48 for pivotal movement about the axis 144.

A hydraulic assembly 148 (partially shown only in FIG. 5) connected between the arm 112 and the frame 12 pivots the arm about the axis 120 for lifting and lowering the deck 38. When the deck is lowered for cutting, the hydraulic assembly allows the lifting arm to "float," thereby allowing the deck 38 to move vertically relative to the frame 12. The connection of the deck 38 to the arm 112 via the cross member 128 allows the deck 38 to pivot relative to the frame 12 about the three mutually perpendicular axes 132, 136 and 144. This mounting arrangement enables the deck 38 to adjust to undulating terrain, thereby substantially avoiding scalping.

It should be understood that the lawn mower 10 could have only two or more than three cutting decks in the front row, and only one or more than two cutting decks in the rear row. Also, other arrangements could be used to mount the decks on the frame 12.

Various features of the invention are set forth in the following claims.

I claim:

1. A gang-type rotary lawn mower comprising
 - a frame supported by front and rear wheels for movement over the ground,
 - a power source which is mounted on the frame and which drives at least two of the wheels,
 - an operator's seat mounted on the frame,
 - a steering system enabling the operator to steer the lawn mower,
 - at least two side-by-side front rotary cutting deck assemblies mounted on the frame in front of the front wheels, the front deck assemblies defining a gap between adjacent front deck assemblies, and
 - at least one rear rotary cutting deck assembly mounted on the frame behind the front deck assemblies and between the front and rear wheels, each rear deck assembly being aligned with a respective gap between adjacent front deck assemblies,
 - each of the front and rear deck assemblies including a single-spindle cutting deck defining a downwardly opening space, a single spindle mounted for rotation about a generally vertical axis within the space, at least one cutting blade mounted on the spindle for rotation therewith, and a rear roller supporting the deck for movement over the ground, the deck having a width such that the roller extends across substantially the entire width of the deck.

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2. A lawn mower as set forth in claim 1 wherein the front deck assemblies are mounted on the frame in front of the front wheels, and the rear deck assembly is mounted on the frame behind the front wheels and in front of the rear wheels.

3. A lawn mower as set forth in claim 1 wherein each deck assembly is connected to the frame by a respective lifting arm operable to lift the associated deck assembly relative to the frame, such that each of the deck assemblies is connected by its own lifting arm to the frame.

4. A lawn mower as set forth in claim 1 wherein each of the front and rear deck assemblies includes a pair of laterally-spaced, generally vertically-extending side plates having forward ends, a first front wheel supporting one of the side plates for movement over the ground, and a second front wheel supporting the other of the side plates for movement over the ground, wherein the rear roller extends between the side plates and supports the side plates for movement over the ground, wherein the associated deck is located between the side plates and in front of the roller and is mounted on the side plates such that the height of the deck relative to the ground is adjustable by changing the position of the deck relative to the side plates.

5. A lawn mower as set forth in claim 1 wherein each deck assembly also includes a hydraulic motor which is mounted on the deck and which is drivingly connected to the spindle.

6. A lawn mower as set forth in claim 1 wherein each deck assembly includes a set of cutting blades mounted on the spindle for rotation therewith, the set of blades including a lower, leading blade having a leading cutting edge and an upwardly angled trailing edge, and an upper, trailing blade having a leading cutting edge for cutting clippings deflected upwardly by the upwardly angled trailing edge of the leading blade, the trailing blade extending at a non-perpendicular angle relative to the leading blade so that clippings coming off the trailing edge of the leading blade are cut immediately by the trailing blade before the clippings start swirling around within the space.

7. A gang-type rotary lawn mower comprising

a frame supported by wheels for movement over the ground,

a power source which is mounted on the frame and which drives at least two of the wheels,

an operator's seat mounted on the frame,

a steering system enabling the operator to steer the lawn mower,

at least two side-by-side front rotary cutting deck assemblies mounted on the frame, the front deck assemblies defining a gap between adjacent front deck assemblies, and

at least one rear rotary cutting deck assembly mounted on the frame behind the front deck assemblies, each rear deck assembly being aligned with a respective gap between adjacent front deck assemblies,

each of the front and rear deck assemblies including a pair of laterally-spaced, generally vertically-extending side plates, a single-spindle cutting deck defining a downwardly opening space, the deck being mounted between the side plates, a single spindle mounted for rotation about a generally vertical axis within the space, and at least one cutting blade mounted on the spindle for rotation therewith, wherein each deck assembly is connected to the frame in part by a cross member connected to the frame for pivotal movement about a generally vertical axis and about a generally horizontal axis extending in the forward-rearward direction, the cross member having opposite, laterally-spaced ends,

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one of the cross member ends being connected to one of the side plates of the associated deck assembly for pivotal movement about a generally horizontal, laterally-extending axis adjacent the forward ends of the side plates, and the other of the cross member ends being connected to the other of the side plates of the associated deck assembly for pivotal movement about the generally horizontal, laterally-extending axis, the ends of the cross member having thereon respective downwardly extending arms, the arms having respective lower ends, the lower end of one of the arms being connected to one of the side plates for pivotal movement about the generally horizontal, laterally-extending axis, and the lower end of the other of the arms being connected to the other of the side plates for pivotal movement about the generally horizontal, laterally-extending axis.

8. A gang-type rotary lawn mower comprising

a frame supported by wheels for movement over the ground,

a power source which is mounted on the frame and which drives at least two of the wheels,

an operator's seat mounted on the frame,

a steering system enabling the operator to steer the lawn mower,

at least two side-by-side front rotary cutting deck assemblies mounted on the frame, the front deck assemblies defining a gap between adjacent front deck assemblies, and

at least one rear rotary cutting deck assembly mounted on the frame behind the front deck assemblies, each rear deck assembly being aligned with a respective gap between adjacent front deck assemblies,

each of the front and rear deck assemblies including a pair of laterally-spaced, generally vertically-extending side plates, a single-spindle cutting deck defining a downwardly opening space, the deck being mounted between the side plates, a single spindle mounted for rotation about a generally vertical axis within the space, and at least one cutting blade mounted on the spindle for rotation therewith, wherein each deck assembly is connected to the frame in part by a cross member connected to the frame for pivotal movement about a generally vertical axis and about a generally horizontal axis extending in the forward-rearward direction, the cross member having opposite, laterally-spaced ends, one of the cross member ends being connected to one of the side plates of the associated deck assembly for pivotal movement about a generally horizontal, laterally-extending axis adjacent the forward ends of the side plates, and the other of the cross member ends being connected to the other of the side plates of the associated deck assembly for pivotal movement about the generally horizontal, laterally-extending axis, wherein each of the deck assemblies is connected to the frame by a respective generally L-shaped, horizontally-extending arm having a laterally-extending inner leg with an inner end connected to the frame for pivotal movement about a generally horizontal axis extending in the forward-rearward direction, and the arm having an outer leg extending in the forward-rearward direction, the outer leg having an outer end, and wherein the cross member is mounted on the outer end of the outer leg.

9. A lawn mower as set forth in claim 8 wherein the arm is operable to lift the associated deck assembly relative to the frame.

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10. A rotary lawn mower comprising
 a frame supported by wheels for movement over the ground,
 a power source which is mounted on the frame and which drives at least two of the wheels,
 an operator's seat mounted on the frame,
 a steering system enabling the operator to steer the lawn mower, and
 a rotary cutting deck assembly including a pair of laterally-spaced, generally vertically-extending side plates which have forward ends and which are supported for movement over the ground, a single-spindle cutting deck defining a downwardly opening space, the deck being located between the side plates and being mounted on the side plates such that the height of the deck relative to the ground is adjustable, a single spindle mounted for rotation about a generally vertical axis within the space, and at least one cutting blade mounted on the spindle for rotation therewith, the deck assembly being connected to the frame in part by a cross member connected to the frame for pivotal movement about a generally vertical axis and about a generally horizontal axis extending in the forward-rearward direction, the cross member having opposite, laterally-spaced ends, one of the cross member ends being connected to one of the side plates for pivotal movement about a generally horizontal, laterally-extending axis adjacent the forward ends of the side plates, and the other of the cross member ends being connected to the other of the side plates for pivotal movement about the generally horizontal, laterally-extending axis, wherein the deck assembly is connected to the frame by a generally L-shaped, horizontally-extending arm having a laterally-extending inner leg with an inner end connected to the frame for pivotal movement about a generally horizontal axis extending in the forward-rearward direction, and the arm having an outer leg extending in the forward-rearward direction, the outer leg having an outer end, and wherein the cross member is mounted on the outer end of the outer leg.

11. A lawn mower as set forth in claim 10 wherein the arm is operable to lift the deck assembly relative to the frame.

12. A rotary lawn mower comprising
 a frame supported by wheels for movement over the ground,
 a power source which is mounted on the frame and which drives at least two of the wheels,
 an operator's seat mounted on the frame,
 a steering system enabling the operator to steer the lawn mower, and
 a rotary cutting deck assembly including a pair of laterally-spaced, generally vertically-extending side plates which have forward ends and which are supported for movement over the ground, a single-spindle cutting deck defining a downwardly opening space, the deck being located between the side plates and being mounted on the side plates such that the height of the deck relative to the ground is adjustable by changing the position of the deck relative to the side plates, a single spindle mounted for rotation about a generally vertical axis within the space, and at least one cutting blade mounted on the spindle for rotation therewith, the deck assembly being connected to the frame in part by a cross member connected to the frame for pivotal

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movement about a generally vertical axis and about a generally horizontal axis extending in the forward-rearward direction, the cross member having opposite, laterally-spaced ends, one of the cross member ends being connected to one of the side plates for pivotal movement about a generally horizontal, laterally-extending axis adjacent the forward ends of the side plates, and the other of the cross member ends being connected to the other of the side plates for pivotal movement about the generally horizontal, laterally-extending axis.

13. A lawn mower as set forth in claim 12 wherein the deck assembly also includes a hydraulic motor which is mounted on the deck and which is drivingly connected to the spindle.

14. A lawn mower as set forth in claim 12 wherein the deck assembly includes a set of cutting blades mounted on the spindle for rotation therewith, the set of blades including a lower, leading blade having a leading cutting edge and an upwardly angled trailing edge, and an upper, trailing blade having a leading cutting edge for cutting clippings deflected upwardly by the upwardly angled trailing edge of the leading blade, the trailing blade extending at a non-perpendicular angle relative to the leading blade so that clippings coming off the trailing edge of the leading blade are cut immediately by the trailing blade before the clippings start swirling around within the space.

15. A lawn mower as set forth in claim 12 wherein the deck assembly also includes a first front wheel supporting one of the side plates for movement over the ground, a second front wheel supporting the other of the side plates for movement over the ground, and a rear roller extending between the side plates and supporting the side plates for movement over the ground, wherein the deck is located in front of the roller, and wherein the deck has a width such that the roller extends across substantially the entire width of the deck.

16. A lawn mower as set forth in claim 12 wherein the ends of the cross member have thereon respective downwardly extending arms, the arms having respective lower ends, the lower end of one of the arms being connected to one of the side plates for pivotal movement about the generally horizontal, laterally-extending axis, and the lower end of the other of the arms being connected to the other of the side plates for pivotal movement about the generally horizontal, laterally-extending axis.

17. A gang-type rotary lawn mower comprising

a frame,
 a pair of front wheels supporting the frame for movement over the ground,
 a pair of rear wheels supporting the frame for movement over the ground,
 a power source which is mounted on the frame and which drives at least one of the pairs of wheels,
 an operator's seat mounted on the frame,
 a steering system enabling the operator to steer the lawn mower,
 at least two side-by-side front rotary cutting deck assemblies mounted on the frame in front of the front wheels, the front deck assemblies defining a gap between adjacent front deck assemblies, and
 at least one rear rotary cutting deck assembly mounted on the frame behind the front wheels and in front of the rear wheels, each rear deck assembly being aligned with a respective gap between adjacent front deck assemblies,

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each of the front and rear deck assemblies including a pair of laterally-spaced, generally vertically-extending side plates having forward ends, a first front wheel supporting one of the side plates for movement over the ground, a second front wheel supporting the other of the side plates for movement over the ground, a rear roller extending between the side plates and supporting the side plates for movement over the ground, a single-spindle cutting deck defining a downwardly opening space, the deck being located between the side plates and in front of the roller and being mounted on the side plates such that the height of the deck relative to the ground is adjustable, the deck having a width such that the roller extends across substantially the entire width of the deck, a single spindle mounted for rotation about a generally vertical axis within the space, at least one cutting blade mounted on the spindle for rotation therewith, and

each of the deck assemblies being connected to the frame by a respective generally L-shaped, horizontally-extending lifting arm operable to lift the associated deck assembly relative to the frame, such that each of the deck assemblies is connected by its own lifting arm to the frame, each arm having a laterally-extending inner leg with an inner end connected to the frame for pivotal movement about a generally horizontal axis extending in the forward-rearward direction, and each arm having an outer leg extending in the forward-rearward direction, the outer leg having an outer end, and a cross member mounted on the outer end of the

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outer leg for pivotal movement about a generally vertical axis and about a generally horizontal axis extending in the forward-rearward direction, the cross member having opposite, laterally-spaced ends, one of the cross member ends being connected to one of the side plates of the associated deck assembly for pivotal movement about a generally horizontal, laterally-extending axis adjacent the forward ends of the side plates, and the other of the cross member ends being connected to the other of the side plates of the associated deck assembly for pivotal movement about the generally horizontal, laterally-extending axis.

18. A lawn mower as set forth in claim 17 wherein each deck assembly also includes a hydraulic motor which is mounted on the deck and which is drivingly connected to the spindle.

19. A lawn mower as set forth in claim 17 wherein each deck assembly includes a set of cutting blades mounted on the spindle for rotation therewith, the set of blades including a lower, leading blade having a leading cutting edge and an upwardly angled trailing edge, and an upper, trailing blade having a leading cutting edge for cutting clippings deflected upwardly by the upwardly angled trailing edge of the leading blade, the trailing blade extending at a non-perpendicular angle relative to the leading blade so that clippings coming off the trailing edge of the leading blade are cut immediately by the trailing blade before the clippings start swirling around within the space.

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